

Taxonomy of the *Phacelia infundibuliformis* complex (Hydrophyllaceae)

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ABSTRACT

The taxonomy of *Phacelia infundibuliformis* Torr. is reviewed, concluding that it is comprised of two infraspecific taxa: var. **infundibuliformis** from central Chihuahua, and Durango, Mexico as well as the Chianti Mountains (Presidio Co.) of Trans Pecos Texas, and var. **phanerandra** I.M. Johnst. of northeastern most Chihuahua, northwestern most Coahuila and closely adjacent Texas (Brewster and Presidio Counties). Published on-line www.phytologia.org *Phytologia* 97(3): 175-178 (July 1, 2015). ISSN 030319430.

KEY WORDS: Hydrophyllaceae, *Phacelia*, *P. infundibuliformis*

Phacelia infundibuliformis Torr., was first described from material reportedly collected by Bigelow and Wright from an "Overhanging rock on a mountain near Lake Santa Maria, Chihuahua." The author further notes that "Wright's specimens have a laxer habit, as well as larger and more membranous leaves than Bigelow's, probably from having grown in a shady place;" he also noted that the "species is remarkable for its funnel-form corollas." A var. *phanerandra* I.M. Johnst., with protruding stamens (vs not so) and funnel-form corollas was subsequently proposed, typified by material from northwesternmost Coahuila, Mexico, the latter taxon also occurring in closely adjacent Chihuahua and USA (Brewster Co.).

Phacelia infundibuliformis is of doubtful relationship within *Phacelia*. Indeed, Gillett (1968, p. 369), in his attempt to provide natural lineages in the *Cosmanthus* group of *Phacelia*, to which the present taxon might belong, commented that "the poorly known, rare, *P. infundubuliformis* Torr., of unassigned affinity, possibly a monotypic section, occurs in Brewster County, Texas...far to the east of several localities of the *Cosmanthus* phacelias." The latter collections belong to the var. **phanerandra**, Gillett presumably unaware of its proposal by I. M. Johnston, as noted below.

PHACELIA INFUNDIBULIFORMIS Torr., Rep. U.S. Mex. Bound. Surv. Bot. 144. 1859.
var. **infundibuliformis** **Fig. 1**

Annual herbs to 75 cm high, leafy throughout. **Mid-stems** moderately pubescent with glandular hairs 0.2-1.0 mm high. **Leaves** (the larger) pinnately dissected, lobed to the rachis, mostly 6-18 cm long, 4-9 cm wide, pubescent above and below. **Capitulescence**, 3-6 cm high, 3-5 cm across, branches markedly circinnate. **Pedicels** (flowering) 1-2 mm long. **Calyces** (flowering) 4-5 mm long, the 5 lobes linear-oblongate, parted to the base, pubescent with stiff, setose, hairs ca 1 mm long. **Corollas** 6-8 mm long, 'blue-lavender;" tubes glabrous, ca 6 mm long, the 5 lobes flared at the top, 4-6 mm across. **Stamens**, 5, included, separate to base, the filaments purple, glabrous; anthers yellow, ca 0.6 mm long. **Styles** not excurrent, ca 4 mm long, their branches ca 2 mm long. **Capsules** ovoid, ca 3 mm long, 2.5 mm wide, pubescent apically with both glandular (minute) and eglandular hairs. **Seeds**, 16-30 per capsule, brown, ca 4 mm long.

SPECIMENS EXAMINED:

MEXICO. CHIHUAHUA: 27 mi S of Cd. Chihuahua, route 45, 9 May 1959, *Correll & I.M. Johnston* 21563 (LL-TEX); 10-15 mi SE of Nueva Casas Grandes. 9 May 1959, *Correll & I.M. Johnston* 21696 (LL-TEX); “mouth of Majalca Canyon,” 11 May 1959, *Correll & I.M. Johnston* 21754 (LL-TEX).
DURANGO: Mpio. Nombre de Dios, El Saltito, 25 Apr 1985, *Herrea* 611 (TEX).

UNITED STATES. TEXAS: Presidio Co., Chinati Mtns. State Natural Area. Upper Tinaja Prieta fork of Pelillos Canyon, 29 51 28 N, 104 26 48 W, 4230 ft, 25 Mar 2005, *Lott* 5456 (SRSC, TEX); “Capote Falls area,” ca 30 13 N, 104 37 W, 3100 ft, mostly rocky calcareous soil, 16 Apr 1973, *M. C. Johnston et al.* 10663 (TEX).

The two collections from Texas cited above were taken to be a novel species when first detected, my having relating them to *P. congesta*. My Academic Son, A. M. Powell (Turner 2015), called attention to their likely relationship to the poorly collected *P. infundibuliformis*, which proved to be the case.

var. **phanerandra** I.M. Johnst., *J. Arnold Arb.* 24: 96. 1943.

As described for var. *infundibuliformis* but the anthers protruding from corollas, as noted below. The variety was not accounted for in Turner et al. (2003).

TYPE: MEXICO. COAHUILA: Sierra de las Cruces near Tinaja Blanca, 12 Mar 1942, *Stewart* 2241 (GH).

Johnston also notes an additional specimen from Texas (Brewster Co., 14 mi E of Castolon, [w/o date] *Cutler* 749, GH). He also adds, “This variety occurs far to the east of the known stations for typical *G. (sic) infundibuliformis* and appears to be a geographic race distinguished by its protruding stamens. In other characters it agrees closely with the typical form of the species.” I agree with his assessments.

SPECIMENS EXAMINED:

UNITED STATES. TEXAS: Brewster Co.: “north slope of mountain near Cottonwood Creek, along road between Terlingua and Basin, Big Bend National Park, 18 Apr 1961, *Correll & Rollins* 23630 (LL-TEX). **Presidio Co.** “rare on igneous rock outcrops in shade of cliffs and nearby large cottonwoods, Ojito Adentro Spring, ca. 0.1 mi downstream from waterfall in box canyon, Big Bend Ranch SNA.” 5 Mar 1991, *Carr* 10971 (TEX); “North-facing cliffs, about 14 miles southeast of Redford, 14 May 1959, *Correll & I.M. Johnston* 21905 (LL-TEX).

Distribution of the two taxa, based upon published reports and specimens on file at LL-TEX, is shown in **Fig. 2**

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Fig. 1. *Phacelia infundibuliformis* var. *infundibuliformis*

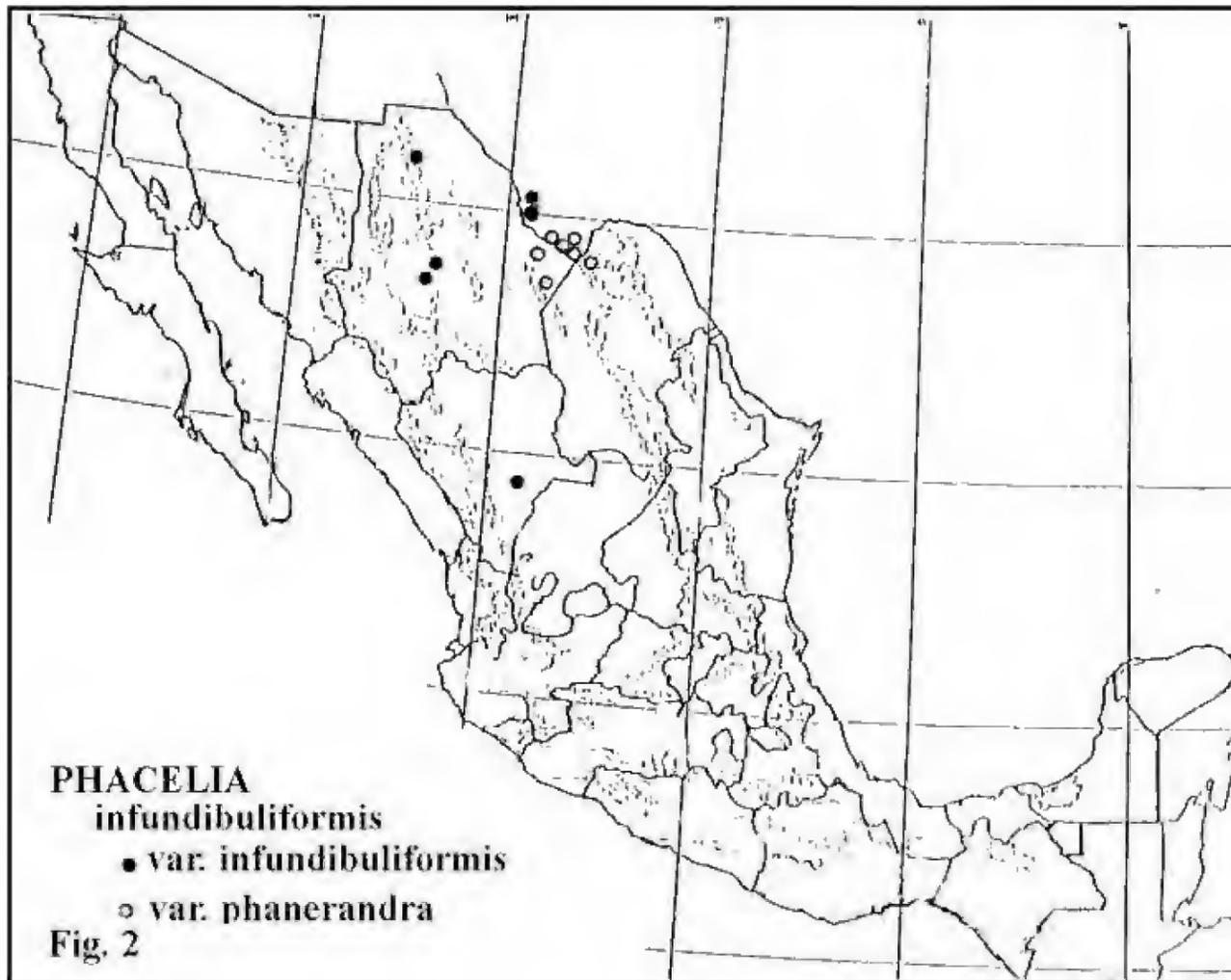


Fig. 2. *Phacelia infundibuliformis*, distribution of varieties.